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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,892	11/13/2003	Pei-Yong Shi	454311-2231.1	1951
20999 7590 09/07/2007 FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER MOSHER, MARY	
			ART UNIT 1648	PAPER NUMBER
			MAIL DATE 09/07/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/706,892	Applicant(s) SHI ET AL.	
	Examiner Mary E. Mosher, Ph.D.	Art Unit 1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,13-17,28-32,45-69,93 and 95 is/are pending in the application.
- 4a) Of the above claim(s) 49,52,53 and 63-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,13-17,28-32,45,47,48,50,51,54-59,61,62,66-69 and 93 is/are rejected.
- 7) ☒ Claim(s) 46,60 and 95 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The examiner of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1648, examiner Mosher.

Election/Restrictions

Claims 49, 52, 53, 63-65 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species or group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/28/2006.

This application contains claims 49, 52, 53, 63-65 drawn to an invention nonelected with traverse in the reply filed on 2/28/2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Response to Amendment

In response to applicant's amendment, the rejections under 35 USC 102(b) and 112 2nd are withdrawn.

Claim Rejections - 35 USC § 103

Claims 1, 5, 7, 13, 14, 16, 32, 59, 61, 62, 66 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hurrelbrink et al., Xiang et al., Puri et al., Yamshchikov et al. and Mishin et al, for reasons of record.

Claims 8, 15, 28, 67, 68, 69 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hurrelbrink et al., Xiang et al., Puri et al., Yamshchikov et al. and

Mishin et al. as applied to claims 1, 5, 7, 13, 14, 16, 32, 59, 61, 62, 66 above, in further view of Zhu et al, for reasons of record.

Claims 30, 31 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Hurrelbrink et al., Xiang et al., Puri et al., Yamshchikov et al. and Mishin et al. in view of Zhu et al. as applied to claims 8, 15, 28, 67, 68, 69 above, in further view of Varnavski et al, for reasons of record.

Claims 45, 47, 48, 50, 51, 54, 55, 56, 57, 58, 93 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chambers et al. supported by Barrett in view of Hurrelbrink et al. Xiang et al., Puri et al. Friebe et al., Yamschchikov et al. and Mishin et al. in view of Zhu et al, for reasons of record.

Claims 4, 6, 7, 13, 14, 17, 30, 31 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Varnavski et al. in view of Pang et al, Khromykh et al., Friebe et al., and Yamschikov et al, for reasons of record.

Claims 9, 15, 29 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Varnavski et al. in view of Pang et al, Khromykh et al., Friebe et al., and Yamschikov et al. as applied to claims 4, 6, 7, 13, 14, 17, 30, 31 above, in further view of Zhu et al, for reasons of record.

In response to the above rejections, Applicant argues that the prior art does not provide the necessary incentive or motivation for modifying the reference teachings, that none of the cited references relates to WNV lineage 1, and that it is well known in the art that there are many difficulties encountered during flaviviral cloning. However, it is maintained that the combined teachings of similar reverse genetic systems for a

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plurality of related flaviviruses provides adequate motivation for one skilled in the art to extend the of reverse-genetics systems to WNV lineage 1, particularly in view of the well-publicized WNV invasion of the United States beginning in 1999. Furthermore, even though the art recognizes difficulties in cloning flaviviruses, the art cited shows that those in the art have repeatedly overcome the difficulties to succeed in producing flaviviral reverse genetic systems. Therefore, it is maintained that the invention as a whole is obvious, absent unexpected results.

Allowable Subject Matter

Claims 46, 60, and 95 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not provide a sequence identical to SEQ ID NO:2, or suggest the changes needed to arrive at the precise structure of SEQ ID NO 2. .

Lanciotti et al (Science 286:2333-2337, 1999) and Lanciotti et al (Virology 298, 96-105, 2002) are cited as of interest, in teaching the complete nucleotide sequence of several lineage I strains of WNV, which are more than 99% identical to SEQ ID NO:2.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. Mosher, Ph.D. whose telephone number is 571-272-0906. The examiner can normally be reached on varying dates and times; please leave a message..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Mary Mosher", written in a cursive style.

Mary E Mosher, Ph.D.

Primary Examiner

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8/29/07